target color, and stores to the color processing unit, therefore, the color calibration is automatically performed, as a result, the display unit can convert and display the aiming target color or the color close to the target color.

Also, according to the present invention, for the multi-vision system comprising a plurality of the display units, the representing colors are displayed on the plurality of the display units without the color conversion. The color conversion coefficient is calculated from the colorimetry results so that the representing colors of the display units will be the target color, and is stored to the color processing units, therefore, the color calibration is automatically performed, and as a result, the plurality of the display units can convert color and can display the aiming target color or the color close to the target color.

Further, according to the present invention, the sensors are installed inside the multi-vision such that the color calibration device is implemented without making the device large more than necessary and at a low cost.

Furthermore, according to the present invention, the sensors are placed outside of the multi-vision, therefore, it can perform colorimetry for the color of the display units and not the light source, and further the position for colorimetry can be set to the central part of the display units, such that the accurate colorimetry which leads to the accurate color calibration becomes possible.

Furthermore, according to the present invention, the sensors are placed outside of the multi-vision to scan the multi-vision in parallel, therefore, colorimetry of all the display units using a smaller number of sensors than the number of the display units becomes possible, such that the cost can be reduced. Also, the colorimetry point of single display unit can be shifted for performing colorimetry, so that when taking the average value of the colorimetry values, it becomes possible to correct an unbalance in the single display unit, and the color calibration can be performed by focusing on the arbitrary point.

Furthermore, according to the present invention, the aiming target color is decided from the colorimetry results of all the display units so that the common color reproduction region of all the display units are set to maximum, and because the target color is the color which can be displayed by all the display units, a strict color calibration will become possible.

Furthermore, according to the present invention, the aiming target color is decided by the operator recognizing the colorimetry results of all the display units displayed on the attached display monitor, therefore, setting the common color reproduction region of most display units are visually set to maximum.

Furthermore, according to the present invention, the colorimetry value with a smallest chroma is automatically set from the colorimetry results of all display units, therefore, from a viewpoint of chroma, a strict color calibration is automatically performed, and problem of narrowing down of the color reproduction region when simply seeking for the common color reproduction region is solved.

Furthermore, according to the present invention, the average value (center of gravity) of the colorimetry values for all display units are automatically calculated from the calorimetry results of all display units, and aiming target color is set this way, therefore, the color calibration is performed automatically such that the problem of narrowing down of the color reproduction region when simply seeking for the common color reproduction region is solved.

Furthermore, according to the present invention, the calorimetry results of all display units and the XYZ tristimulus values of the target color are stored in the memory, and by comparing with the next colorimetry results, calibration is executed only when the calibration need to be executed such that unnecessary processing is not involved.

Furthermore, according to the present invention, the calorimetry results of all display units and the XYZ tristimulus values of the target color are stored in the memory, and by comparing with the next calorimetry results, calibration is executed for the display units that need to be executed such that unnecessary processing is not involved.

What is claimed is:

1. A multi-vision system including a plurality of display units, comprising:

a sensor for performing colorimetry of display colors from the plurality of display units;

a color conversion coefficient calculation unit for calculating a color conversion coefficient to calibrate a display color of each display unit using colorimetry values obtained from the sensor by performing calorimetry for the display colors of the plurality of display units; and

a color processing unit for performing a color conversion of the display color of each display unit by using a calculated color conversion coefficient from the color conversion coefficient calculation unit.

2. The multi-vision system according to claim **1**,

wherein the color processing unit receives a signal of at least one of representing colors, and displays the representing color on the display units without a color conversion;

wherein the sensor performs calorimetry for the representing color of the plurality of display units displayed by the color processing unit; and

wherein the color conversion coefficient calculation unit calculates the color conversion coefficient of each display unit for color converting the representing color measured by the sensor to a pre-determined target color, and outputs a calculated color conversion coefficient to the color processing unit.

3. The multi-vision system according to claim **2**, wherein the sensor is positioned inside the multi-vision system and in a non-display area that is in between the plurality of display units.

4. The multi-vision system according to claim **2**, wherein the sensor is positioned outside of the multi-vision system.

5. The multi-vision system according to claim **2**, wherein the sensor is placed so as to be able to scan in parallel against the plurality of display units.

6. The multi-vision system according to claim **2**, wherein the color conversion coefficient calculation unit decides a signal value of at least one of the representing colors, and takes a colorimetry value that has a maximum common color reproduction region in a color reproduction region of the plurality of display units as the target color of the representing color from within the colorimetry values of the representing color when displaying the representing color to the plurality of display units without a color conversion.

7. The multi-vision system according to claim **2**, wherein the color conversion coefficient calculation unit displays the colorimetry value of at least one of the representing colors of the plurality of display units on a chromaticity coordinate, and decides the target color based on a specified chromaticity coordinate.

8. The multi-vision system according to claim **2**, wherein the color conversion coefficient calculation unit decides a signal value of at least one of the representing colors, and